



U.S. Department of Energy
Office of River Protection

P.O. Box 450
Richland, Washington 99352

01-OSR-0263

Mr. Ron F. Naventi, Project Manager
Bechtel National, Inc.
3000 George Washington Way
Richland, Washington 99352

Dear Mr. Naventi:

CONTRACT NO. DE-AC27-01RV14136 - TOPICAL MEETING MINUTES FROM JUNE 26, 2001


Enclosed please find the meeting record of the June 26, 2001, Topical Meeting between the Office of Safety Regulation and Bechtel National, Inc. If you have comments or questions regarding the meeting record, please contact me or George Kalman of my staff, (509) 372-0652. Nothing in this letter should be construed as changing the Contract, DE-AC27-01RV14136. If, in my capacity as the Safety Regulation Official, I provide any direction that your company believes exceeds my authority or constitutes a change to the Contract, you will immediately notify the Contracting Officer and request clarification prior to complying with the direction.

Sincerely,

Robert C. Barr
Safety Regulation Official
Office of Safety Regulation

OSR:GK

Enclosure

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Meeting Record

IMS: 01-OSR-0263

MEETING PURPOSE: The 22nd Topical Meeting between the Office of Safety Regulation (OSR) and Bechtel National, Inc. (BNI): Integrated Safety Management (ISM) Process, Authorization Basis (AB) Submittals and Schedules

MEETING DATE/TIME: June 26, 2001 /1:00 – 4:00 PM

MEETING PLACE: Room 1305, 2440 Steven, Richland, WA

AGENDA:

1. OSR Opening Remarks
2. BNI discussion of ISM Process, Schedule of AB Submittals, and Phased Construction Authorization

ATTENDEES: See Attachment 1


PREPARED BY: Ko Chen

CONCURRENCE: George Kalman

KEY DISCUSSION ITEMS:

The meeting began with a welcome from the OSR, the introduction of attendees (Attachment 1) and a review of the meeting agenda. The OSR noted that this was the first topical meeting between the OSR and BNI since BNI became the primary contractor for the River Protection Project- Waste Treatment Plant (RPP-WTP). The OSR reiterated that the purpose of topical meetings is to resolve regulatory issues in advance of the submittal of the construction authorization request (CAR) for RPP-WTP to facilitate a timely review of the CAR.

The OSR reviewed the status of issues that remained open after the first 21 topical meetings. The open issues include: 10 of 133 issues that were identified during the review of the Initial Safety Assessment Report (ISAR), 83 topical meeting action items, and 14 significant unresolved issues. The 14 significant unresolved issues were identified by the OSR as issues that have the greatest potential for delaying construction authorization if not resolved in advance of the CAR. The BNI schedule of topical meeting agenda does not include discussion of the 14 issues until the August 2001 Topical Meeting. The OSR noted that it will be challenging to resolve the 14 issues during the time allocated by the BNI schedule.

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As part of the pre-meeting document submittal dated June 15, 2001, BNI addressed 20 of the 83 topical meeting action items. The 20 items addressed by BNI were ISM related issues originating from the May 2000 Topical Meeting. OSR concurs that 17 of the 20 items are on track for resolution per the status provided in the pre-meeting submittal. However, action items 1, 2, and 3, associated with projected frequency for loss-of-offsite power events, were not adequately addressed. The determination of an appropriate frequency for loss-of-offsite power events has been discussed on several occasions without resolution. To facilitate disposition of this issue, OSR will summarize the problems and identify related references by separate correspondence. For tracking purposes, 17 of the 20 action items from the May 2000 Topical Meeting will be closed and the item 1, 2, and 3 associated with loss-of-offsite power will remain open.

In transitioning to the BNI agenda for this topical meeting, the OSR identified the pre-meeting activities that occurred to prepare for the meeting. These pre-meeting activities are identified on page 8 of Attachment 2 and include document submittals and working meetings.

The OSR also reviewed the topical meeting protocol, which is outlined on page 3 of Attachment 2. In reviewing the past topical meetings held between the OSR and the previous RPP-WTP contractor, BNFL, the OSR listed the following accomplishments:

- Twenty-one topical meetings were held from August 1998 through June 2000.
- All major sections of the preliminary safety analysis report (PSAR) were addressed.
- Seismic criteria for major building structures of the RPP-WTP were developed.


BNI Presentation

After this introduction by the OSR, the BNI portion of the meeting began. BNI stated that the purpose of this topical meeting was to review the ISM process to support AB documents, procurement and construction. BNI also would present a proposed target schedule for phased construction authorization. The BNI agenda is included in Attachment 3.

The BNI ISM Process (Attachment 3)

The BNI ISM process presentation included the following items:

- Discussion of the May 2000 topical meeting open items, and the BNFL and BNI self-assessment findings and conclusions related to the ISM process
- Integration of safety and design information necessary to support the submittal of a partial construction authorization request (PCAR) and separate PSARs for the LAW and HLW vitrification buildings, and the pretreatment building
- Standard identification process database (SIPD) status review
- Design basis event (DBE) review process

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BNI stated that it conducted an evaluation of the BNFL self-assessment of the ISM process and the October 2000 design reconciliation performed by CHG during the project transition period. BNI stated that the purpose of the design reconciliation was to incorporate the updated design into the ISM results. This reconciliation was made between the November 2000 design and the design that existed in April 2000. Engineering, environment safety and health (ES&H), and operations groups participated in the evaluation and the process was documented in safety implementation notes (SINs). BNI also stated that its self-assessment of the BNFL ISM process concluded that some SIPD entries for pretreatment (PT) from Cycle I of the ISM process were not upgraded to Cycle II of the ISM process.

In its SIPD review (shown as sequence 1 on page 9 of Attachment 3), BNI stated the standards portion of the SIPD was either confirmed or revisions were recommended. BNI also confirmed consistency between facilities for similar safety case requirements (SCRs) and systems, structures, and components (SSCs).

In its DBE review, BNI made the following points:

- The number of DBEs identified by BNFL was based on a preliminary SIPD record.
- Final DBEs will be based on approved SIPD records due in July 2001.
- The current DBE set was developed from the methodology defined in the BNI design guide K70DG528.

The methodology was based on the following logic:


- All significant events (Severity Level 1 (SL-1), SL-2, and SL-3) affecting co-located workers and the public were identified. The events affecting only the facility workers were set aside for later evaluation. Events with SL-4 consequences to all receptors or with initiator frequencies beyond the extremely unlikely range ($< 1.0E-06$) were eliminated.
- Events with SL-3 consequences to co-located workers or the public were set aside for later evaluation.
- The remaining events were combined into analysis packages for DBE review.

The BNI process for DBE reviews was described in Attachment 3 on pages 12 and 13.

For illustration purposes, BNI provided an example matrix for the HLW spray DBE (Attachment 4). This example shows the level of detail BNI intends to provide in its DBE review process. The detail includes a description of the accident event, credited passive and active preventive/mitigative SSCs, defense in depth and administrative controls, and performance requirements.

The results of the BNI DBE reviews are expected to:

- Help determine criteria for early procurement.

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- Provide input for the PSAR submittal.
- Validate the SIPD.
- Support the accident analysis for PSAR/HAR/SRD development.

In conclusion, BNI stated that its ISM process will:

- Integrate design and safety.
- Provide the basis for moving forward with the updated design media.
- Comply with the DOE/RL-96-0004 process.
- Identify specific performance requirements/standards to support long lead procurement, construction, and AB documents.

The following are the exchanges between the OSR and BNI on this subject. OSR comments and questions are followed by the BNI responses:


- BNI stated that the events affecting only facility workers were set aside for later evaluation in its DBE selection process. Will there be additional DBEs selected from those events? It is possible.
- Will there be a PT reconciliation meeting after the PT reconfiguration work is done? Yes, the ISM reconciliation will be performed early next year.
- The fundamental reason to conduct a reconciliation is to deal with evolving design changes. For example, LAW Process Plant (LPP) was not included in the BNFL April 2000 deliverables. How was LPP design treated by BNI? An ISM meeting for the LPP design was conducted by BNI in Feb. 2001.
- How will the ISM information be updated to deal with evolving design changes? It will be dealt with under the BNI configuration management system. Each design change will be reviewed to see whether it impacts the operational safety. If operational safety is impacted, an ISM meeting will be called to address the impact.
- Were personnel who participated in the reconciliation process the same as those who performed the ISM work? Yes.

Engineering Documentation (Attachment 3)

BNI stated that a necessary refocusing of the ISM process, shown as sequence 3 on page 9 of Attachment 3, includes steps to:

- Identify procurement requirements, including quality classifications of long-lead equipment.
- Develop design requirements for early construction.
- Continue to support the development of PSAR/HRD/SRD.

The following are the exchanges between the OSR and BNI on this subject. OSR comments and questions are followed by the BNI responses:

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- Figure 1 on page 19 of Attachment 3 shows that the BNI design input memorandum (DIM) process includes all inputs from a variety of design sources such as reference drawings and calculations. Does the DIM contain enough specific information to permit a competent reviewer to determine the safety basis of the facility? The DIM will be a list of design inputs that are specific enough to identify the safety basis of the design.
- Will the DIM provide a means to retrieve the facility design basis to facilitate future design changes? BNI will look into this issue further.
- The OSR Safety Review Official emphasized that all drawings, specifications, and related calculations, which are used by BNI as the safety basis, should be submitted, or readily made available upon request, with any AB submittal.

Schedule and AB Submittals (Attachment 3)


BNI's current baseline of major milestones projects limited construction authorization on 9/2001, the construction authorization on 11/2002, and the cold and hot operation of the plant respectively on 2/2007 and 12/2007. BNI's limited construction authorization request (LCAR) was submitted to the Department of Energy (DOE) on June 5, 2001. BNI stated that, in order to reduce project risk and provide greater assurance of meeting the baseline hot commissioning milestone, the construction authorization request (CAR) would be segmented into three separate AB documents: a PCAR for the basemat and walls to grade construction ("build to grade") of the HLW/LAW, a PSAR for the full construction of HLW/LAW and the basemat construction for PT, and a PSAR for the full construction of the PT building. BNI stated that the "build to grade" scope of work for HLW/LAW includes the following:

- Placement of forms/rebar/embedments (FRE) into excavation
- Install grounding ring and tie to basemat rebar
- Initiate placement of concrete for basemat
- Placement of exterior/interior walls FRE and concrete to nominal grade
- Selected backfill with the consideration for underground penetrations

The proposed BNI target schedule for all these activities was shown on page 28 of Attachment 3. BNI stated that eventually, the three separate AB documents would be consolidated into one document. The PSAR multi-volume configuration was shown on page 30 of Attachment 3. BNI stated that the proposed PCAR will address the following issues:

- Natural Phenomena Hazards (NPH) site characteristics
- Site description pertaining to "build to grade" scope
- Applicable hazard and accident analysis methodologies
- SSCs selection method
- Necessary programmatic controls for a complete safety review

As part of the phased PCAR/PSAR submittals, BNI is addressing the issue of cumulative site risk. BNI stated that it is developing a methodology to allocate segmented risk goals. When the final

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PSAR is completed, BNI will confirm that the aggregate risk contributions from all facilities conform to the risk goals for the WTP.

BNI stated that it will ask DOE for the approval of the segmented PSAR and contract changes to integrate the PSAR and HAR into one document in a letter of intent by July 1, 2001.

The following are the exchanges between the OSR and BNI on this subject. OSR comments and questions are followed by the BNI responses:

- The segmented PSAR requires separate hazard analysis for LAW/HLW and PT. However, certain hazards can not be analyzed in an isolated way. For example, controls for nuclear criticality for the facility may be in place at one location but the criticality hazard may develop from concentration of fissile material in a separate facility downstream of the controls. How does the BNI proposal for segmented PSAR submittals address hazards that are interrelated or affect more than one facility? BNI is evaluating this type of concern.
- Why isn't the balance of facility (BOF) mentioned anywhere in the PCAR/PSAR submittals? It is an oversight. The BOF will be part of the PCAR submittals.
- The OSR Safety Review Official commented that it is better for BNI to put into one document all the information common to all facilities such as site layout and description, programmatic chapters, conduct of operations and training etc. BNI responded that it agrees with that approach and will attempt to do that.


The OSR Evaluation of The Meeting

After the meeting was concluded, the OSR Safety Review Official made the following comments:

- There are many questions associated with the BNI DIM. The OSR will likely conduct an inspection of the DIM process in the future.
- The OSR has a better appreciation of the DBE sorting that BNI had performed after the presentation.
- The event logic network for the LCAR submittal provides the OSR with better understanding on the logic. However, it did not have any safety input in the network. BNI should consider this in its future AB submittals.

INFORMATION EXCHANGES

1. The OSR meeting presentation material
2. BNI handout on ISM Process, AB Submittals and Schedule
3. BNI handout on DBE Example-HLW Spray Event

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ATTACHMENTS:

1. The meeting attendance list
2. The OSR Meeting Presentation Material
3. BNI handout on ISM Process, AB Submittals and Schedule
4. BNI handout on DBE Example-HLW Spray Event